

2.10 Hypergolic Maintenance Facility (HMF)

Description:

The Hypergolic Maintenance Facility (HMF) is comprised of various buildings, including the Hazardous Waste Staging Area, General Warehousing (clamshell), Hypergols Module Processing North, GSE Storage Building (HMF support), HMF Mix Crib and Petroleum, Oil, and Lubricants (POL) storage, Hypergolic Maintenance Facility Support Building No. 2, Hypergols Support Building (HMF control room), Gaseous helium and Gaseous nitrogen storage, Hypergols Module Processing South, Storage Area, Firex Pump Station, Water Storage Tank, and Temporary Building (pad A liquid hydrogen area). Today, the HMF receives the Orbiter Maneuvering System (OMS) pods and Forward Reaction Control System (FRCS) modules for offline processing. Within the HMF complex the hypergols support building houses the control room used to monitor activities in the test cells. Hypergols Module Processing North contains the east and west test cells used currently for pod hypergolic service and de-service. The east handles the right orbiter pod, and west handles the left orbiter pod. Hypergols Module Processing South

is used for pressure vessel testing and FRCS or other storage. The west test cell is used for FRCS hypergolic service and de-service.

The HMF complex comprises a group of buildings in the Kennedy Space Center Industrial Area that is about eight miles southeast of the Vehicle Assembly Building. The HMF provides all the facilities required to process and store hypergol-fueled modules that are periodically removed from the orbiters for maintenance and



At the Hypergolic Maintenance Facility at NASA's Kennedy Space Center in Florida, preparations are under way to move the Forward Reaction Control System, or FRCS, for space shuttle Discovery to Orbiter Processing Facility Bay 3.



At the Hypergolic Maintenance Facility at Kennedy Space Center, the Forward Reaction Control System for space shuttle Discovery is secured on a truck bed and ready for transport to Orbiter Processing Facility-3.

modification activities. The Hypergols Module Processing North Building is a 10,307-square-foot building; the east cell is used to perform maintenance on the right-hand OMS pod and the west cell is used for left-hand OMS pod maintenance. The Hypergols Support Building is a 17,295-square-foot building that houses support personnel and launch processing system (LPS) consoles to provide monitoring and control of all HMF functions. These consoles interface with the LPS Central Data Subsystem in the Launch Control Center, and with the hardware interface modules. The Hypergols Module Processing South Building is a 6,549-square-foot building where maintenance is performed on the FRCS module. The Hypergols Storage Building West is a 2,381-square-foot facility where the FRCS can be stored. The Hypergols Storage Building East is a 1,809-square-foot facility where OMS pods can be stored.

HMF (Continued)

Ammonia Servicing:

Not available

Building Management System:

Yes

Chilled Water:

Yes

Clean Room:

Not available

Electrical Service:

This facility is outfitted with 480 volt, three-phase power at 60 hertz, and is capable of being reconfigured to meet customer requirements.

Potable Water:

Potable water tested and verified to be in compliance with the federal government standard is available in this facility.

Compressed Air:

Compressed air is available in HMP North and South at 125 psi and 150 cfm.

Gaseous Nitrogen:

Gaseous nitrogen is available in the HMF complex at 3,000 psi and 1,300 cfm. Specifications for individual buildings can be confirmed based upon customer requirements.

Gaseous Helium:

Gaseous helium is available in the HMF complex at 6,000 psi and 3,000 cfm. Specifications for individual buildings can be confirmed based upon customer requirements.

Control Rooms:

Yes

Cranes:

The HMP North and South facilities are serviced by 20-ton-maximum-capacity cranes with an approximate 45-foot hook height.

Relative Humidity:

HMP North (M7-0961) and HMP South (M7-1212) HVAC systems are capable of maintaining a 55 to 65 percent relative humidity range.

Temperature Range:

HMP North and South HVAC systems are capable of maintaining a temperature range of 72 to 76 degrees F.

Uninterruptible Power Supply (UPS):

Portions of the HMF complex are served by an UPS system, however actual ratings were not readily available.

Vacuum Chamber:

None

Video Camera/Recorders:

HMP North and South are monitored by a CCTV video system with recording capability.

Floor Space:

There is 6,549 square feet available in Hypergol Module Processing South (M7-1212) and 10,309 square feet available in Hypergol Module Processing North (M7-0961).

Door Height:

HMP North and South are equipped with a main door that is 40 feet high.

Door Width:

HMP North and South are equipped with a main door that is 22 feet wide.

Processing Area:

There are four individual processing areas; each measures 43 feet wide by 43 feet long (1,849 square feet).

Office Space:

Currently, there is about 35,000 square feet of office space within the HMF Support Building and Support Building No. 2 facilities.